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DOCUMENT MANAGING DEVICE

PUB. NO.: 2001-357051 [JP 2001357051 A]
PUBLISHED: December 26, 2001 (20011226)
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INTL CLASS: G06F-017/30 ; G06F-012/00 ; G06F-013/00

ABSTRACT

PROBLEM TO BE SOLVED: To enable a client to a target document by using the identifier of a document stored before by making it possible to track the history of a document even when a document is moved or the document name is changed in a document managing system.

SOLUTION: A server part 10 manages the document and the attribute data of the document and a client (user) part 20 sends the acquisition request of the document to the server part 10 and receives a response. When processing is performed to **change** the **identifier** of a certain document, an identifier history managing means 11 **records** the former identifier information and the new identifier information of that document. A document acquiring means 14 **retrieves** the target document from the applied identifier, and when any document can not be **retrieved** by this document acquiring means 14, a document tracking means 13 **retrieves** the target former identifier while using the identifier history managing means 11 and **retrieves** the document again while using that former identifier.

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PATENT ABSTRACTS OF JAPAN

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(71)Applicant : RICOH CO LTD

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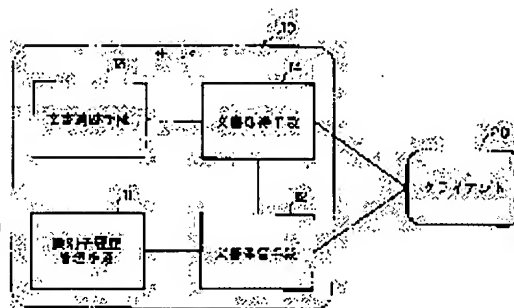
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(54) DOCUMENT MANAGING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To enable a client to a target document by using the identifier of a document stored before by making it possible to track the history of a document even when a document is moved or the document name is changed in a document managing system.

SOLUTION: A server part 10 manages the document and the attribute data of the document and a client (user) part 20 sends the acquisition request of the document to the server part 10 and receives a response. When processing is performed to change the identifier of a certain document, an identifier history managing means 11 records the former identifier information and the new identifier information of that document. A document acquiring means 14 retrieves the target document from the applied identifier, and when any document can not be retrieved by this document acquiring means 14, a document tracking means 13 retrieves the target former identifier while using the identifier history managing means 11 and retrieves the document again while using that former identifier.



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[Date of request for examination]

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CLAIMS

[Claim(s)]

[Claim 1] the client characterized by providing the following can specify a document by the identifier -- it documentation-management-equips The identifier history management tool which records the old identifier information and new identifier information on the document when processing from which the identifier of a certain document changes is performed A document trace means to search the old identifier which uses the aforementioned identifier history management tool and corresponds when a document is not able to be searched with a document acquisition means to search the document which corresponds from the given identifier, and a document acquisition means, and to search a document again using the old identifier

[Claim 2] It is documentation-management equipment characterized by a document acquisition means showing a client the list if an identifier history management tool also doubles and records the time from which identifier information changed in a claim 1, a document trace means searches all the new identifiers that can be followed without conflict in time from the old identifier and there are two or more documents corresponding to the old identifier.

[Claim 3] An identifier history management tool is documentation-management equipment characterized by recording the host information in which a document exists in a claim 1 or 2.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention is set to documentation-management equipment and the documentation management system which can specify a document as a detail by a certain identifier like URL more. When the identifier of a document is changed, specification of the document by the old identifier is also set to a WWW server, concerning the technology made possible. When URL of a certain resource is changed and there is an acquisition demand of the resource using old URL from a client, it is related with the technology which returns changed new URL to a client, and answers so that it may re-connect.

[0002]

[Description of the Prior Art] The documentation management system has separated in many cases in the server section and the client section. The server section manages the attribute data of a document and a document. The client section has a user interface, sends a demand to the server section according to operation of a user, and receives a response. The most fundamental demand is an acquisition demand of a document. At this time, since a required document is specified, a certain identifier is needed. In a documentation management system in recent years, an identifier is expressed in many cases using URL (Uniform Resource Locator). In addition, URL is prescribed by RFC1738, for example, will specify a document by the URL "http://hostname/folder1/folder2 / docname."

[0003]

[Problem(s) to be Solved by the Invention] Although a document name (file name), a folder name (directory name), etc. are used for URL in many cases, the folder which places these names or documents can be changed by the documentation management system. If it changes, it will become impossible to acquire a document in URL which corresponded to the document till then.

[0004] The system which constitutes URL combining the folder name and document name on which a document is put is considered. The document named "mydoc" put on the folder named "folder1" will be expressed by the URL "http://hostname/folder1 / mydoc." The client memorizes this URL, when required, can use this URL and can give a document acquisition demand to a server.

[0005] However, suppose that this document was moved to "folder2" at a certain time. If URL called not URL but "http://hostname/folder2/mydoc" "http://hostname/folder1 / mydoc" is not used, it becomes impossible then, to acquire a document after it. Therefore, the client which had memorized old URL cannot acquire the document which corresponds if it remains as it is.

[0006]

[Means for Solving the Problem] Invention of a claim 1 is set by identifier like URL to the documentation-management equipment with which a client can specify a document. The identifier history management tool which records the old identifier information and new identifier information on the document when processing from which the identifier of a certain document changes is performed, It is characterized by having a document acquisition means to search the document which corresponds from the given identifier, and a document trace means to search the old identifier with an identifier history management tool, and to search a document again using the old identifier when a document is not able to be searched with a document acquisition means.

[0007] If an identifier history management tool also doubles the time from which identifier information

changed, it records in invention of a claim 1, a document trace means searches all the new identifiers that can be followed without conflict in time from the old identifier and invention of a claim 2 has two or more documents corresponding to the old identifier, a document acquisition means will be characterized by showing a client the list.

[0008] Invention of a claim 3 is characterized by the host information in which a document exists recording an identifier history management tool in a claim 1 or invention of 2.

[0009]

[Embodiments of the Invention] Drawing 1 is an important section outline block diagram for explaining the example of the documentation-management equipment by this invention, and, as for ten, the server section and 20 are the client sections among drawing. the server section 10 Having the identifier history management tool 11, the document storage means 12, the document trace means 13, and the document acquisition means 14, the server section 10 manages the attribute data of a document and a document, and the client (user) section 20 sends the acquisition demand of a document to the server section 10, and it receives a response. First, each means of the server section 10 is explained.

[0010] (Identifier history management tool) Since URL which corresponds if the name of a document or a folder is changed or the folder which places a document is changed changes, it is a means for recording the history. The example of the information which an identifier history management tool manages is shown in Table 1. The 1st line shows that "/folder1/folder2/docname" was changed into "/folder3/docname" at 14:20 34 seconds on January 1, 1999. In addition, other form is sufficient, as long as the information which can constitute URL is contained here, although the old identifier and the new identifier are using the substring of URL.

[0011]

[Table 1]

T a b l e 1 : 識別子履歴管理手段の例

旧識別子	新識別子	変更日時
/folder1/folder2/docname	/folder3/docname	1999-01-01T14:20:34
/folder3/docname	/folder3/newdoc	1999-04-01T13:43:22
...

[0012] As shown in Table 2, a host name is also manageable with an identifier history management tool. A trace of a document is attained, even when also managing the host name and to manage a document by different host is decided.

[0013]

[Table 2]

T a b l e 2 : ホスト名も記録する識別子履歴管理手段の例

旧識別子	新識別子	変更日時
//host1/folder1/folder2/docname	//host1/folder3/docname	1999-01-01T14:20:34
//host1/folder3/docname	//host2/folder2/newdoc	1999-04-01T13:43:22
...

[0014] (Document storage means) It is a means for associating and keeping the content of a document, and the document attribute using the file system, the database management system, etc. This means is well-known technology and there is no processing peculiar to this invention. A document is positioned by the node of either of the tree structures called a folder or directory. In order to take out a document, it is necessary to follow a folder hierarchy originally. A document is specified by the following URL from a client.

http://hostname/folder1/forder2 / document [0015] The next processing is performed in order to obtain the document which corresponds from this URL.

- Take out the content ("folder1") of the next segment of the segment (section divided by '/') showing a host name.

- Look for a thing with the name which is in agreement with "folder1" in the folder of the most significant. The document corresponding to this URL does not exist without a corresponding thing.

- Look for what has in a subfolder the name of "folder1" which is in agreement with "folder2." The document corresponding to this URL does not exist without a corresponding thing.

- Look for the document which has the name of "document" of "folder2" in the bottom. The document corresponding to this URL does not exist without a corresponding thing.

[0016] A document storage means requests registration of the old identifier, a new identifier, and a change time LGT to an identifier history management tool while changing appropriately the data managed inside, when there is a change request of a document name or a move demand of a document from a client. By this, the newest information can always be reflected in an identifier history management tool.

[0017] (Document trace means) It is a means for asking for a corresponding new identifier from the given old identifier. The simplest mounting method is shown.

1. Obtain the line which matches the given old identifier from an identifier history management tool.
2. Obtain the line which has the new identifier of the line as an old identifier from an identifier history management tool.

3. The new identifier which repeated aforementioned 2. and was finally obtained is a new identifier corresponding to the given old identifier until the identifier which matches is lost.

[0018] It is better to perform the following processings using change time data, since it may consider that it corresponds to an excessive identifier when it is the above-mentioned method.

1. Obtain the line which matches the given old identifier from an identifier history management tool.
2. In the line which has the new identifier of the line as an old identifier, change time obtains a newer thing from an identifier history management tool.

3. The new identifier which repeated aforementioned 2. and was finally obtained is a new identifier corresponding to the given old identifier until the identifier which matches is lost.

[0019] For example, in Table 3, it is as follows.

- The specified old identifier sets to A.

- The new identifier corresponding to A is B, and change time is 1999-01-01.

- Although the new identifier corresponding to B is two kinds, C and E, only B->C is newer than the change time of A->B.

- Therefore, only C corresponds to the old identifier A.

[0020]

[Table 3]

Table 3 : 日時も記録する識別子履歴管理手段の例

旧識別子	新識別子	変更日時
A	B	1999-01-01
B	C	1999-04-01
D	B	1990-08-01
B	E	1990-10-01
...

[0021] (Document acquisition means) From a client, with URL, it is told, and a document acquisition demand takes out the corresponding content of a document from a document storage means, and returns it.

- When there is no document corresponding to a document storage means, investigate whether URL is passed to a document trace means and it is changed into new URL.

- When there is no corresponding new URL, tell that there is no corresponding document to a client.

- Corresponding new URL tells a client that it sends a document acquisition demand to the URL only in the case of one.

- When corresponding new URL is plurality, tell the list of corresponding URL to a client.

[0022] (Procedure in the case of document name change or document movement) Also by the case of document name change, also by the case of document movement, since procedure is essentially the same, the procedure in document movement is explained along with drawing 2.

- The move demand of a certain document is told to a document storage means from a client (specification of a movement place).

- Change appropriately the data related with the position of a document inside the document storage means.

- A document storage means requests registration of the information on 3 groups of "a new identifier, the old identifier, and change time" to an identifier history management tool. A host name may be included in an identifier.

- An identifier history management tool adds the information requested from the in-house data.
- [0023] (Procedure of a document acquisition demand) Procedure when a document acquisition demand comes is explained along with drawing 3 from a client.
- From a client, a document acquisition demand is told to a document acquisition means with URL of the document.
 - A document acquisition means requests drawing of the document corresponding to the URL from a document storage means. If drawing is successful, the document will be returned to a client.
 - When drawing goes wrong, a document acquisition means requests reference of new URL corresponding to specified URL to a document trace means.
 - If new URL is not obtained, return an error to a client.
 - If only one URL is searched, it will be told to a client that the relapse line of the document acquisition demand is carried out using the URL. If the server from which new URL differed is pointed out, a client will be accessed at the server.
 - If two or more URL is searched, the list of the URL will be made into HTML form, it will return to a client, and a user will enable it to choose.

[0024]

[Effect of the Invention] The document with which a client corresponds within the effect documentation management system corresponding to a claim 1 using the identifier of the document memorized before it since it becomes possible to pursue the history even if there are movement of a document, change of a document name, etc. can be taken out.

[0025] Since the identifier history of the effect document corresponding to a claim 2 is recorded with change time, judging an unrelated identifier as a new identifier decreases.

[0026] Since the identifier history of the effect document corresponding to a claim 3 is recorded with the host name, a trace becomes possible even if it moves a document among hosts.

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PRIOR ART

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EFFECT OF THE INVENTION

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TECHNICAL PROBLEM

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MEANS

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is an important section outline block diagram for explaining one example of the documentation-management equipment by this invention.

[Drawing 2] It is a flow view for explaining the example of processing of document movement.

[Drawing 3] It is a flow view for explaining the example of processing of document acquisition.

[Description of Notations]

10 [-- A document storage means, 13 / -- A document trace means, 14 / -- A document acquisition means, 20 / -- Client section.] -- The server section, 11 -- An identifier history management tool, 12

[Translation done.]

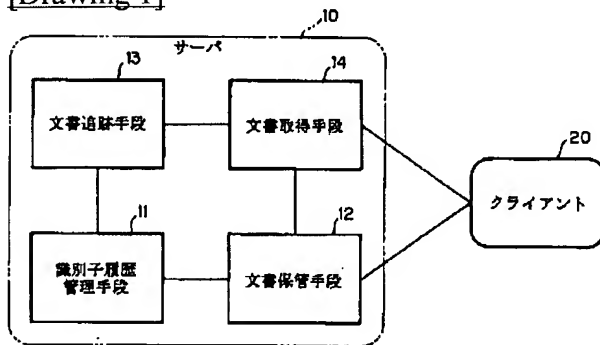
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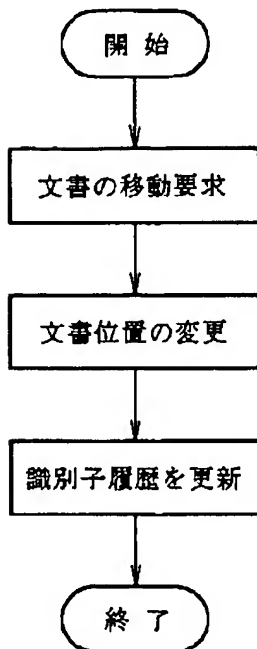
DRAWINGS

[Drawing 1]



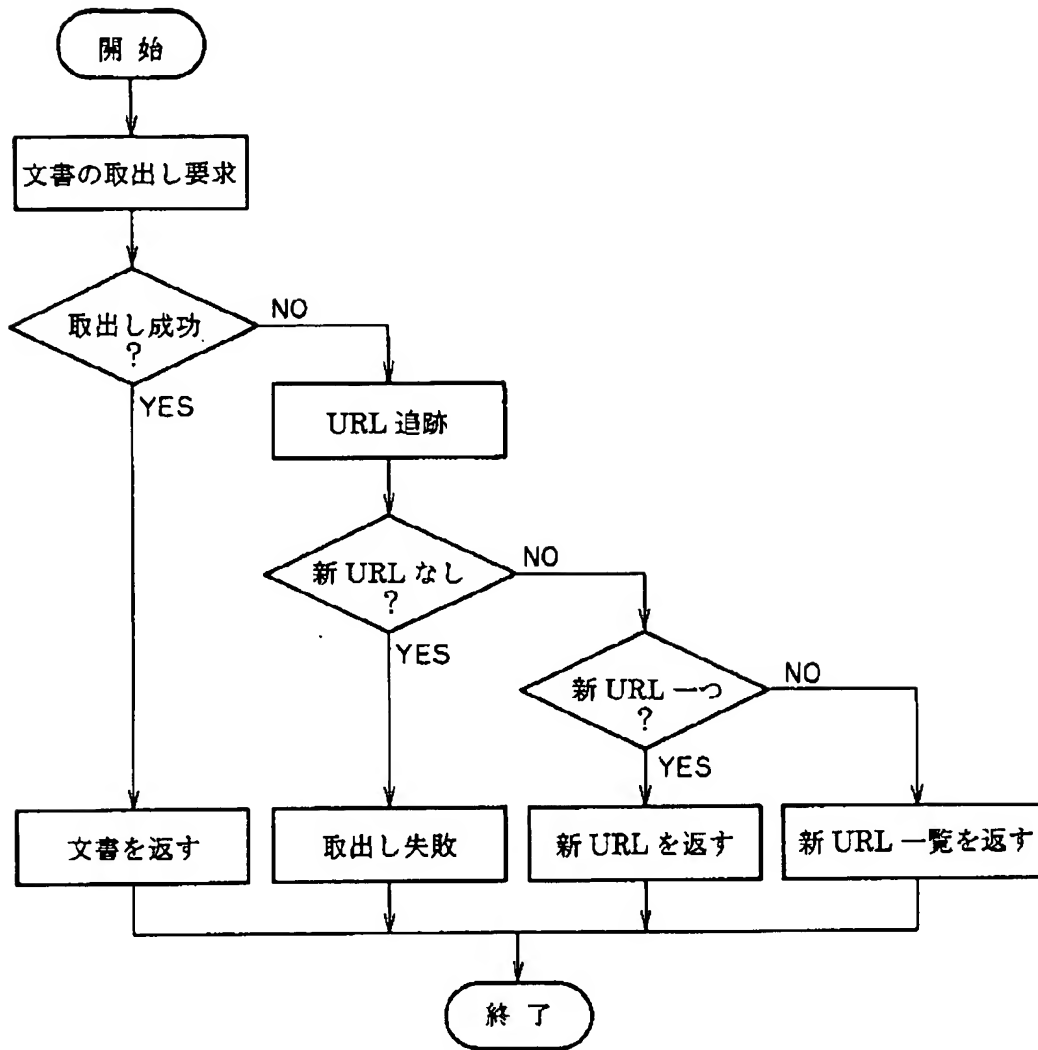
[Drawing 2]

文書移動処理



[Drawing 3]

文書取得処理



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13